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Resource development and teacher training: a model of interactive WhiteBoard (WB) integration in language labs

Abstract

Pedagogical research often focuses on learners' experience of technologyenhanced learning environments. It is widely accepted that effective use of Information and Communication Technologies (ICT) in learning requires the learner to be already fluent in them (Lai and Morrison 2013: 154). If this is the case, then practitioners also need to be competent, yet the digital literacy of today's learners often appears greater than that of practitioners. This translates into a big gap between learners and practitioners in ability and confidence in the use of ICTs.

In this paper, we present the outcomes of a research project funded by the University of Wollongong (UoW) on the creation of innovative teaching resources to integrate Interactive WhiteBoards (IWBs) more effectively in the classroom. It also provided training opportunities to improve quality learning and teaching practices and standards embedded in course design and delivery.

Keywords

model, interactive, whiteboard, wb, integration, language, resource, labs, development, teacher, training

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Abstract

Pedagogical research focuses often on learners' experience of technology-enhanced learning environments. It is widely accepted that effective use of Information and Communication Technologies in learning and teaching requires the learner to be already fluent in them (Lai and Morrison 2013: 154). If we agree with this premise, then it becomes clearly apparent how this fluency in the use of ICTs is absolutely essential for practitioners.

In our teaching – learning paradigm, another determining factor is that today's learners have ICT skills ingrained in them from an early age which is often not the case of practitioners. This translates into a big gap between learners and practitioners in ability and confidence to use ICTs.

In this paper, we present the outcomes of a research project funded by the University of Wollongong. We were tasked to create innovative teaching resources to integrate IWBs more effectively in the classroom and to provide training opportunities to improve quality learning and teaching practices and standards embedded in course design and delivery.

We describe and comment the resources we created as well as the features specific to IWBs we exploited and their impact on practice. We reflect on the various workshops we ran, regarding assumptions, self-perceptions and outcomes amongst practitioners.

1. Introduction

The Language Centre opened at UOW in 2011, it features two language labs equipped with Promethean IWBs and the ActivInspire software. Promethean provided an initial short training session to present their software. At the end of 2011, extensive but informal feedback from learners at UOW showed that tutors' ability to use IWBs and ActivInspire affected the perceived quality of the teaching: there was a marked difference in surveys between teachers experienced in the use of IWBs and those who weren't. Subsequently, we surveyed teachers informally and found that many

were reluctant to use the IWBs in class because they did not feel confident with this new technology and they felt they had received insufficient training. Research supports our informal findings: since their integration in the classroom, pedagogical research has focused on various aspects of IWBs' ability to enhance learning. The most recent studies have suggested that a key factor to ensure IWBs have a positive impact on learning is the ability of the teachers to use them. The professional development and training of teachers is essential to ensure that they are proficient with the technology and capable of integrating IWBs meaningfully in their pedagogy (Hockly 2013; Hubbard 2008; Hubbard and Levy 2006; Hughes 2005; Marzano and Haystead 2009; Russell et al. 2003).

For these reasons, in 2012, we applied for a grant from the UOW Educational Strategies Development Fund to create teaching resources that would enable tutors to make the most of the facilities as well as offer sustainable training opportunities.

2. Resources and features of IWBs in teaching and learning

For a more detailed look at some of the resources and types of activities we created, we shot a short video of examples in action. The video can be viewed at <http://www.youtube.com/watch?v=eNKVd5RS6ak>.

Among the simplest activities to create were those that exploited resources that came as a package with the ActivInspire software: already interactive and completely adaptable to our teaching context, we tried to integrate them in our learning resources. We did find however that, because the customer base of ActivInspire was essentially in the primary and secondary sectors, a lot of the resources were made to look appealing to a much younger audience.

Initially, we found it easy to integrate material we had already created using other softwares (Word, Powerpoint) into ActivInspire presentation. We found the quality of the images imported from various sources particularly impressive. Although this is a time-saving boon, this does not encourage practitioners to use IWBs to their full potential and exploit the pedagogical affordances inherent to the software.

One of the most popular types of activities we created was gap fill exercises. They can be adapted to fit the various skill levels of our students from the most basic - where they only need to drag answers that are provided on the slide in the right place - to more advanced levels where students have to write answers - just the ending of a word, a whole word, an idiom or a full sentence.

IWBs foster pedagogically sound practices because we can alter our presentations on the spot. It allows for just in-time teaching and supports individual learning. We found it particularly useful when learners ask for clarification as, unlike other presentation softwares, it allows backtracking, modifying content, adding slides, etc (see the example of the 'boot' in our video, as well as the various uses of flexible paths of hide-and-reveal).

A specific feature of ActivInspire is the fact that you can have multiple 'players', meaning that two students can use the IWB at the same time. This multiplies the opportunities for interactive activities and collaborative learning. Competitiveness can be encouraged at two levels: at the IWB and between IWB users and the other students in the class, something we find students enjoy while it encourages learning. It helps with learner attention (getting up breaks the pace and/or activity) and promotes deep learning through kinesthetic learning (see the example of the 'hearts' in our video).

A major feature of ActivInspire is the ease and reliability of integrated media which in many ways reflects students' experience of digital culture (Schuck and Kearney 2007). Teachers have total

control of command features for AV material – this includes pause and precise backtrack: for comprehension activities it is an advanced and very useful and versatile feature – and for live links to websites – this means news, interviews, up-to-date information, music, cinema are reliably available in the classroom. We observed that the high reliability of this feature alleviated a great deal of teachers' anxiety related to the use of multi-media in the classroom (see the examples of the song activity including a YouTube clip, the Spanish news and the French video).

The presence of IWBs in the classroom helps to create a less formal learning environment. The physical spaces within the room are not defined anymore by the constraints imposed by the often necessary presence of the teacher at the front of the room, at the board, while the students sit at their desk. IWBs encourage students' mobility within the room giving them a greater sense of ownership and control over their learning environment. We found that this increased students' engagement and attention. Ironically this brings us back to a situation that predates the use of computers and projectors in the classroom, when students could use the board, even in groups. The advent of computers and projectors in the classroom redefined teaching and learning spaces: the use of presentation softwares narrowed ownership of the board to the teacher whilst relegating students to the back of the classroom, which could lead to a teacher-centred learning environment. With IWBs, the learning and teaching spaces are restored and we have the best of both worlds: legible, time-saving, pre-planned slides that foster a student-centred learning environment.

These are some of the most useful features we exploited with Promethean IWBs and ActivInspire. Two of the key features for us are that the software is very reliable, giving the teacher peace of mind and the opportunity to focus on pedagogy rather than technology and that it allows for just-in-time-teaching, which is essential in any creative learning and teaching environment.

3. Workshop and training opportunities

The second aspect of our project to enhance the use of IWBs in the classroom entailed teacher training.

At the outset, the vendor organised a workshop. The facilitator was very competent and went through all the features of the software and hardware, however their background was in sciences and not in higher education. Therefore we found that a lot of the features and resources they presented were not applicable in our teaching context. Based on our personal professional experience and intrinsic interest in CALL, we were asked to run training workshops and we deliberately focused on features we found more relevant to languages in a higher education context.

Following the first workshop we ran, first impressions were very positive about the potential of IWBs in general and specifically the control given to the teacher over the resources – as we highlighted before the reliability of the software is conducive to lessen anxieties over the use of multi-media in the classroom. Consequently staff could focus their entire attention on enhancing the student experience.

Despite the positive feedback and initial enthusiasm, colleagues started expressing some concerns as they felt they were not sufficiently in control of the software. Consequently a lot of them opted not to use it in class. There were several reasons for this.

One of the biggest challenges for casual staff was their limited access to the ActivInspire software: full-time staff had the software installed on their office computers but the university only had a limited number of licences, making it difficult for casual teachers to train and prepare.

Full-time members of staff faced different challenges. Firstly, they were willing to learn and to use the software in class, but they realised how time consuming it was going to be to create resources that would go beyond importing Powerpoint presentations into ActivInspire and to use the software fully. Secondly, during the workshops and immediately after, they felt knowledgeable and in control of ActivInspire however, soon after, their confidence declined: the amount of information provided in the workshops had become overwhelming and they didn't feel they could adequately use the software.

Having run a number of workshops and used the IWBs and ActivInspire extensively, we underestimated how important it was to start workshops with the absolute basics to lay sound foundations and not to overwhelm participants with too much information. The reason we had lost track of the basics was that we had always been resource creators as well as users, never users only, therefore our workshops intended to address both resource design and in-class IWB's use.

The distinction between using IWBs in class and resource design was also blurred for participants to start with. Eventually, based on feedback and our own experience, we altered the structure of the workshop to address these issues and we focused on teacher's agency.

We found that the right sequence for workshops had three distinct steps:

1. Firstly, it is important to start working with participants with the software at a computer exclusively; with access to resources we had already produced, they were able to grow confident in using the software with ready-made material.
2. Secondly, we took the participants to the language labs and got them to use the ActivPens on the IWB so as to experience the same material in a real teaching context. This allowed them to experience the advanced pedagogical features of teaching with IWBs, highlighting in particular their interactive aspects.
3. The third part of the workshop focused on resource design. This part of the workshop was open to all participants but only really concerned resource designers. Once they had become proficient in using ActivInspire and Promethean IWBs, the participants were keen to try their hand at resource design. The material they later created was positively impacted by their own experience of the first two parts of the workshop

When we implemented this sequence in the third workshop, the results were much better: increased confidence was quoted repeatedly by participants. Finally one remaining issue for staff was the scarce access to IWBs for training and independent learning purposes.

4. What we learnt

With experience and reflexive practice, it became apparent that it is essential to have a plan B, whenever we design resources to use with IWBs. After three years and a number of software updates, the hardware has not aged very well. One of main issues is the responsiveness of the ActivPens with the IWB. This increased staff frustration and reluctance to use the ActivPens and IWB – the software can still be successfully exploited but only from the teacher's PC.

Access to quality technical support and equipment is fundamental. In our experience, their scarcity only aggravates confidence issues, disrupts teaching strategies and discourages teachers to use the technology. As Hubbard and Levy recommend, 'the ideal solution for a teacher education program would be to add a CALL specialist to your faculty' (Hubbard and Levy 2006:34). We believe this specialist can be an academic with a keen interest and a sound working knowledge of the strategies involved in CALL.

Finally, it should be noted that we encountered some issues with character languages: colleagues teaching Japanese and Mandarin found the hardware did not allow them and their students to comfortably write characters directly on the IWB, although they could still use all other features of the software.

5. Conclusion

Based on our professional experience and the workshops we ran, we designed a collection of teaching resources and we developed a range of sustainable training opportunities for staff unfamiliar with ActivInspire and IWBs. We learned as much from the workshops as participants did and eventually successfully redesigned the workshops' sequence to help staff become confident and proficient in the use of IWBs in the classroom.

In our experience and as research suggests, sharing learning and teaching experiences that inspire reflection is a sound basis to craft innovative use of technology-enhanced pedagogy (Hockly 2005). This is at the heart of the next workshops we will be running: most of the staff are now confident users of IWBs and have become enthusiastic resource designers. Our goal is now to create a forum to share best practice regularly across languages at UOW.

With the increasing presence of IWBs in teaching institutions, more and more publishers provide IWB-ready resources to accompany their textbooks. We found that there are a number of compatibility issues depending on the IWB software publishers support. Moreover, these IWB-ready resources still need to be adapted to individual teaching contexts, meaning they still require teachers's skills and knowledge to be used effectively.

Finally, one of the bigger questions is whether IWBs still have a future in the classroom: the 2013 Horizon Report suggests that tablet computing is likely to be adopted widely within a year. The kinesthetic learning aspects of IWBs are easily replicated with tablets. Tablets also support the learning needs of individual students, whilst enabling collaboration thanks to wifi and bluetooth. Therefore it is likely we will witness another adjustment of the teaching and learning physical space alongside with advent of this new technology.

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